

ABSTRACT OF THE DISCLOSURE

5 The present invention provides a semiconductor element in which the field-effect transistor and the Schottky diode are arranged such that a depletion layer stemming from the Schottky diode is superimposed on a depletion layer stemming from a junction between a second conductivity type semiconductor constituting the field-effect transistor and a drift region (first conductivity type semiconductor) in an off-state. Furthermore, the present invention provides a semiconductor element in which the field-effect
10 transistor and the Schottky diode are arranged so that a second conductivity type semiconductor other than the second conductivity type semiconductor constituting the field-effect transistor is not interposed between the electric field effect transistor and the Schottky diode. According to preferable embodiments of the present invention, the reverse recovery time due to a
15 parasitic diode can be reduced by providing the Schottky diode such that the element area of the semiconductor element is not increased. Moreover, the breakdown voltage in the semiconductor element can be improved.